Appendix E-11: South Sound

Pocket Estuary Identifier	Latitude	Longitud	Photo ID #	Freshwater (Y/N)	Likely Chinook Functions			Shoreline Development	Urbanization	Diking and Filling	Susceptibility to spills and discharges	Aquaculture related substrate alterations	Vulnerability to Sea Level Rise	Final Chinook Function Score			
					Feeding	Osmoreg.	Refuge										
SS1-Tolmie	47.121	122.775	000802-125756	Y	x	x	x							PF	PF = Property Functining		
SS2-Dogfish Bight	47.126	122.783	000802-125818	N(?)				x		x				NPF	NPF=Not Properly Functioning		
SS3-Puget	47.152	122.796	000802-130102	Y	x	x	x							PF	AR=At Risk		
SS4-N. Reach1	47.158	122.799	000802-130130	N	x		x							PF			
SS5-Johnson Point	47.169	122.811	000802-130334	N	x		x	x						PF			
SS6-Henderson Inlet1	47.132	122.827	000802-130842	N	x		x	x	x					PF			
SS7-Dickenson Point	47.162	122.847	010512-142734	N	x		x	x	x					AR			
SS8-Dana Passage1	47.153	122.875	010512-143154	N	x		x							PF			
SS9-Gulf Harbor	47.111	122.889	000803-122112	N	x		x							PF			
SS10-Countryside Beach	47.128	122.925	000803-123820	N(?)					x	x				NPF			
SS11-Eld Inlet1	47.123	122.941	000803-124214	N			x	x		x				NPF			
SS12-Mud Bay	47.046	122.986	000803-125154	N	x		x	x	x	x	x		x	NPF			
SS13-Eld Inlet2	47.084	122.994	000803-130056	Y	x	x	x							AR			
SS14-Flapjack Point	47.108	122.955	000803-130438	N	x		x	x						AR			
SS15-Sanderson Harbor	47.148	122.937	000803-130814	N	x		x	x		x				AR			
SS16-Totten Inlet1	47.157	122.957	000803-131558	N	x		x					x		PF/AR			
SS17-Totten Inlet2	47.152	122.963	000803-131622	Y	x	x	x	x				x		AR			
SS18-Totten Inlet3	47.146	122.965	000803-131634	N	x		x	x				x		AR			
SS19-Totten Inlet4	47.134	122.999	000803-132346	Y	x	x	x	x				x		PF			
SS20-Burns Point	47.108	123.043	000803-132654	N			x	x	x	x		x	x	NPF			
SS21-Snodgrass Creek	47.121	123.034	000803-133628	Y	x	x	x							PF			
SS22-Little Skookum	47.146	123.059	000803-134540	N	x		x	x						PF			
SS23-Arcadia	47.194	122.94	010512-145842	Y	x	x	x	x				x		AR			
SS24-Mill Creek	47.197	122.993	010512-150144	Y	x	x	x							PF			
SS25-Bay Shore	47.243	123.048	010512-151344	Y	x	x	x	x		x	x			AR			
SS26-Squaxin1	47.219	122.929	010512-144410	N			x							PF			
SS27-Squaxin2	47.212	122.912	010512-144242	Y		x	x							PF			
SS28-Squaxin3	47.179	122.904	010512-144804	N	x		x							PF			
SS29-Squaxin4	47.182	122.91	010512-144758	N	x		x							PF			
SS30-Squaxin5	47.195	122.921	010512-144542	N	x		x							PF			
SS31-Cape Cod	47.21	122.932	010512-153520	N			x	x						AR			
SS32-Stadium	47.319	122.839	010512-155426	N	x		x	x	x					AR			
SS33-Stretch Is.1	47.329	122.818	010626-160406	N			x	x		x				NPF			
SS34-North Bay1	47.356	122.825	010512-155752	Y	x	x	x	x						AR			
SS35-Victor	47.38	122.815	010512-160638	N			x	x		x				NPF			
SS36-Rocky Bay	47.361	122.788	000803-140230	Y	x	x	x			x				PF			
SS37-Sunshine Beach	47.348	122.794	000803-140458	N	x		x	x						AR			
SS38-Vaughn Bay	47.34	122.776	000803-140742	Y	x	x	x	x	x		x			AR			
SS39-Dutcher Cove	47.31	122.785	000803-141022	Y	x	x	x	x						PF			
SS40-Case Inlet1	47.299	122.787	000803-141438	Y	x	x	x							PF			
SS41-Herron	47.274	122.81	000803-141548	Y	x	x	x	x						AR			
SS42-Herron Island	47.259	122.84	000803-141722	N			x	x		x				AR			
SS43-Tiedman	47.245	122.829	000803-142134	Y(?)				x		x				NPF			
SS44-Case Inlet2	47.23	122.821	000803-142220	Y	x	x	x							PF			
SS45-Whitman Cove	47.221	122.803	000803-142358	N(?)				x		x		x(?)		NPF			
SS46-Taylor Bay	47.185	122.774	000803-142748	Y(?)	x	x	x	x						AR			
SS47-Case Inlet3	47.174	122.772	000803-142820	Y	x	x	x							PF			
SS48-Devils Head	47.168	122.77	000803-142838	N	x		x							PF			
SS49-Lovass	47.177	122.716	000923-120724	N	x		x	x						AR			
SS50-Amsterdam Bay	47.158	122.721	000923-121326	Y	x	x	x	x			x			AR			
SS51-Brisco Point	47.166	122.875	010626-154920	N	x		x	x						AR			
SS52-Harstene1	47.204	122.89	010626-154748	N			x	x						AR			
SS53-Harstene2	47.219	122.907	010626-161918	N						x				NPF			
SS54-Harstene3	47.221	122.909	010626-161914	N			x	x		x				NPF			
SS55-Harstene4	47.223	122.912	010626-161904	Y	x	x								PF			
SS56-Harstene5	47.237	122.923	010626-161810	N	x							x		PF			
SS57-Dougall Point	47.3	122.845	010626-160230	N	x		x	x		x				AR			
SS58-Harstene6	47.286	122.857	010626-160140	Y				x		?				NPF			
SS59-Fudge Point	47.272	122.864	010626-155930	Y	x	x	x					x		PF			
SS60-Ballow	47.236	122.861	010626-155444	Y				x		x				NPF			
SS61-Harstene7	47.211	122.841	010626-155320	N			x							AR			
SS62-Harstene8	47.169	122.865	010626-155040	Y(?)	x		x	x	x	x				AR			

Figure E-11.4 South Sound sub-basin pocket estuary loations, likely Chinook functions, and observed stressors

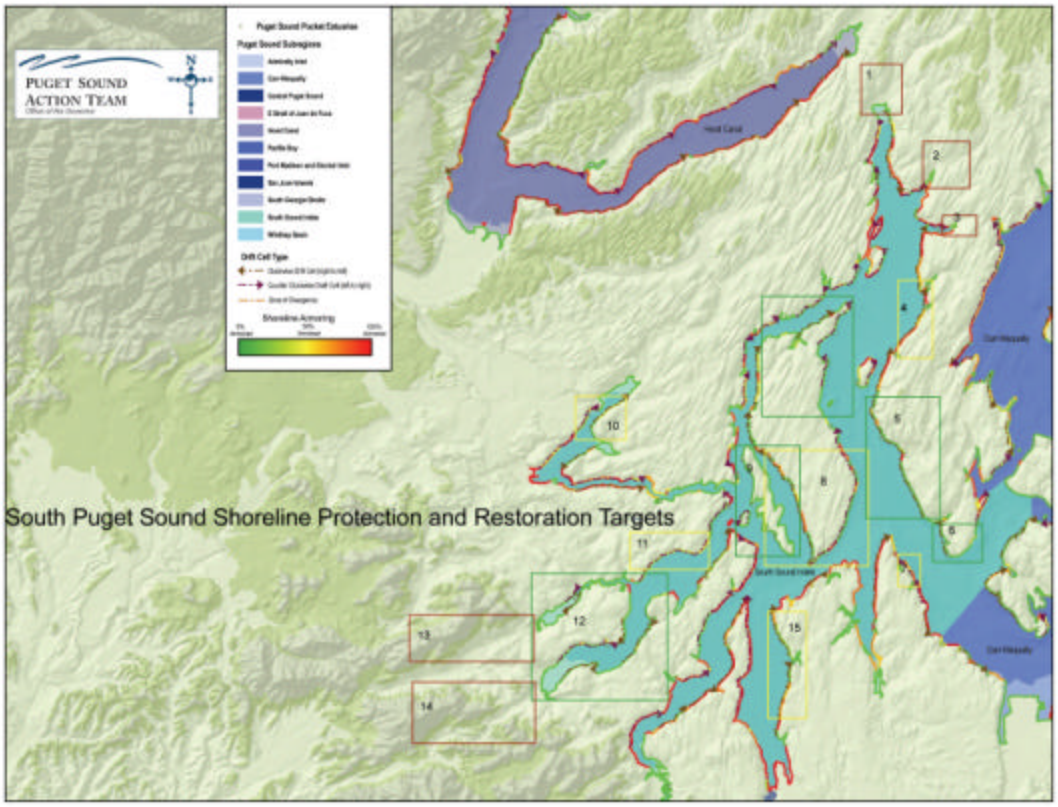

Figure E-11.5 South Sound sub-basin analysis of drift cells and shoreline armoring
South Sound

Boxes 1, 2, 3, and 4 – The upland sediment sources from Coulter Creek, Rocky Creek and other drainages interact with the longshore sediment transport in the upper reaches of Case Inlet to create a substantial shallow shelf and intricate structure of pocket estuaries. The small divergent drift cell in box 4 should be considered for protection through aggressive landowner education and regulatory protection from Pierce County because of its importance in maintaining the broad intertidal shelf of this shoreline.

Boxes 5 and 6 – The entire western key peninsula shoreline and the southernmost feeder bluff (box 6) currently maintain function for nearshore sediment delivery and the protection of 6 important pocket estuaries within 5-10 miles of the Nisqually delta and should therefore be targeted for protection.

Box 7 – This small drift divergence area feeds a number of important shorelines along this otherwise heavily armored residential area. Together with the large number of pocket estuaries and their associated deltaic sediments, this shoreline provides important habitats for fish migrating from the Nisqually and other part of Puget Sound. Aggressive landowner education and strong regulatory presence from Thurston County will be needed to protect the remaining functions of this shoreline.

Box 8 – This feeder section supplies two divergent drift cells that support the shorelines of southern Hartstene Island. The green box outlining northern Hartstene Island also suggests a protection priority. The Hartstene Island shorelines contain a number of pocket estuaries and a broad intertidal and subtidal shelf.

Box 9 – Like Hartstene Island above, Squaxin Island is virtually uninhabited and the shorelines unarmored. Strong commitments from the Squaxin Island Tribe suggest these shoreline will remain protected.

Box 10 – The two northeasterward drift cells in Oakland Bay assist in the retention of fine deltaic sediments entering the bay from John's Creek, Cranberry Creek and Deer Creek. Mason County should aggressively protect natural sediment transport functions through their ciritcal areas ordinance and shoreline master program as well as support Public Benefit Rating System for protection of shoreline properties within box 10.

Box 11 – The northern shoreline of Totten Inlet consists of one large drift cell that travels northeasterly from Skookum Inlet to Hammersly Inlet. There are a number of cross-shore structures, presumably from shellfish aquaculture operations, visible from aerial photographs, which may impede the natural transport of sediment along that shoreline. The effects of such structures should be studied before any recommendations are considered.

Box 12, 13 and 14 – Both Oyster Bay and Skookum Inlet shorelines appear to be functioning quite well and have littoral drift processes that are likely due to strong tidal action rather than wind driven waves. Efforts of the commercial and recreational shellfish growers to protect water quality in these inlets has resulted in undeveloped local watersheds (boxes 13 and 14) as well as undeveloped shorelines (box 12).